



Title: NUCLEIC ACID MOLECULES AND POLYPEPTIDES FOR
IMMUNE MODULATION

Applicant (s): Grant McFadden et al.

Filing Date: October 11, 2001

Serial No.: 09/976,605

Page 1 of 2

Customer No.: 21559

FIGURE 1

TPVgp38aa 1 TLKCYCTVTLKDNGLYDKVFYCHYN 25
Yabagp38 1 MNKLILSLLG FVATCNCITLRNYTVTVK-NGLYDGVFFDYNDQLVTRI 49
** * **** * ***** ** **

TPVgp38aa 26 25 (SEQ ID NO: 1)
Yabagp38 50 SYNHETKRGNVN 61 (SEQ ID NO: 2)



Title: NUCLEIC ACID MOLECULES AND POLYPEPTIDES FOR
IMMUNE MODULATION

Applicant (s): Grant McFadden et al.

Filing Date: October 11, 2001

Serial No.: 09/976,605

Page 2 of 2

Customer No.: 21559

FIGURE 2

YMTV partial gp38 gene (183 nucleotide):

5'
ATGAATAAGTTAATTTTATCGTTGTTGGGTTTGTGGCAACTTGCAATTGTATAACCTTAAGATATAATTATACCGTTA
CGGTAAAGAATGGATTATACGACGGGGTATTTTTTGATTATTACAACGATCAGTTAGTAACGAGGATATCATATAATCA
TGAAACCAACGAGGAAATGTAAAT (SEQ ID NO: 3)

YMTV partial gp38 gene (61 amino acid):

5'
MNKLILSLGFSVATCNCITLRYNYTVTVKNGLYDGVFFDYNDQLVTRISYNHETKRGNVN (SEQ ID NO: 2)

SEQ ID NO: 4

MNKLILFSTIVAVCNCITLKYNVTVTLKDNGLYDGVFYDHYNDQLVTKISYNHETRHGNVNFADWFKIS
RSPHTPGNDYNFNFYWYSLMKETLEEINKNDSTKTTSLITGCEYETGLLFGSYGYVETANGPLARYHTGD
KRFTKMTHKGFPAKVGMLTVKNTLWKDVKTYLGGFEYMGC SLAILDYQKMAKGEIPKDTTPTVKVTGNELE
DGNMTLECSVNSFYPPDVITKWIESEHFKGEYKYVNGRYYPEWGRKSDYEPGEPGFPWNIKKDKDANTYS
LTDLVRTTSKMSSQLVCVVFHDTLEAQVYTCSEGCNGELYDHLRYKTEEGEGEED*EED*

FIG. 3

FIG. 3

SEQ ID NO: 5

Tana gp38:

AAGCTTCATGAATAAGTTAATATTATTTAGCACAATTGTAGCAGTTTGTA
ACTGCATAACTTTAAAATATAATTATACTGTTACGTTAAAAGATAATGGGTTATAC
GATGGAGTATTTTACGATCATTACAACGATCAGTTAGTAACGAAAATATCAT
ATAACCACGAACTAGACACGGAAACGTAAATTTTAGGGCTGATTGGTTTAA
TATTTCTAGGAGTCCCCACACGCCAGGTAACGATTACAACTTTAACTTTTGGT
ATTCTTTAATGAAAGAACTTTAGAAGAAATTAATAAAAACGATAGCACAAA
AACTACTTCGCTTTCATTAATCACTGGGTGTTATGAAACAGGATTATTATTTG
GTAGTTATGGGTATGTAGAAACGGCCAACGGACCGTTGGCCAGATACCATAC
AGGAGATAAAAGGTTTACGAAAATGACACATAAAGGTTTTCCCAAGGTTGGA
ATGTTAACTGTAAAAAACACTCTTTGGAAAGATGTAAAAACTTATCTAGGCG
GTTTTGAATACATGGGATGTTTCATTAGCTATTTTAGATTACCAAAAAATGGCT
AAAGGTGAAATACCAAAAGATACAACACCTACAGTGAAAGTAACGGGTAAT
GAGTTAGAAGATGGTAACATGACTCTTGAATGCAGTGTAATTCATTTTACCC
TCCTGACGTAATTACTAAGTGGATAGAAAGCGAACATTTTAAAGGTGAATAT
AAATATGTTAACGGAAGATACTATCCAGAATGGGGGAGAAAATCCGATTATG
AGCCAGGAGAGCCAGGTTTTCCATGGAATATTAATAAAGATAAAGATGCAA
ACACATATAGTTTAAACAGATTTAGTACGTACAACATCAAAAATGAGTAGTCA
ACTAGTATGTGTTGTTTTCCATGACACTTTAGAAGCGCAAGTTTATACTTGTT
CTGAAGGATGCAATGGAGAGCTATACGACCACCTATATAGAAAAACAGA
AGAAGGAGAAGGTGAAGAGGATGAAGAAGACGGAAACCCTCGAG

FIG. 4

009505-101101

SEQ ID NO: 6

MDKLLLFSTIVAVCNCITLKYNVTVTLKDDGLYDGVFYDHYNDQLVTKISYNHETRHGNVNFADWFNIS
RSPHTPGNDYNFNFWYSLMKETLEEINKNDSTKTTSLSLITGCYETGLLFGSYGYVETANGPLARYHTGD
KRFTKMTHKGFPKVGMLTVKNTLWKDVKAYLGGFEYMGC SLAILDYQKMAKGKIPKDTTPTVKVTGNELE
DGNMTLECTVNSFYPPDVITKWIESEHFKEGYKYVNGRYPPEWGRKSNEYEPGEPGF PWNKKDKDANTYS
LTDLVRTTSKMSSQPVCVVFHDTLEAQVYTCSEGCNGELYDHLRYRKTEEGEGEEDEED*

FIG. 5

09076605.101104

SEQ ID NO: 7

YLD gp38:

ATGGATAAGTTACTATTATTTAGCACAATTGTAGCAGTTTGTAAGTGCATAAC
TTTAAAATATAATTATACTGTTACGTTAAAAGATGATGGGTTATACGATGGAG
TATTTTACGATCATTACAACGATCAGTTAGTGACGAAAATATCATATAACCAT
GAAACTAGACACGGAAACGTAAATTTTAGGGCTGATTGGTTTAATATTTCTA
GGAGTCCCCACACGCCAGGTAACGATTATAACTTTAACTTTTGGTATTCTTTA
ATGAAAGAAACTTTAGAAGAAATTAATAAAAACGATAGCACAAAACTACTT
CGCTTTCATTAATCACTGGGTGTTATGAAACAGGATTATTATTTGGTAGTTAT
GGGTATGTAGAAACGGCCAACGGGCCGTTGGCCAGATACCATACAGGAGAT
AAAAGGTTTACGAAAATGACACATAAAGGTTTTCCCAAGGTTGGAATGTTAA
CTGTAAAAAACACTCTTTGGAAAGATGTAAAAGCTTATTTAGGCGGTTTTGA
ATATATGGGATGTTTCATTAGCTATTTTAGATTACCAAAAAATGGCTAAAGGTA
AAATACCAAAAAGATACAACACCTACAGTGAAAGTAACGGGTAATGAGTTAG
AAGATGGTAACATGACTCTTGAATGCACTGTAAATTCATTTTACCCTCCTGAC
GTAATTACTAAGTGGATAGAAAGCGAACATTTTAAAGGTGAATATAAATATG
TTAACGGAAGATACTATCCAGAATGGGGGAGAAAATCCAATTATGAGCCAGG
AGAGCCAGGTTTTCCATGGAATATCAAAAAAGATAAAGATGCAAATACATAT
AGTTTAACAGATTTAGTACGTACAACATCAAAAATGAGTAGTCAACCAGTAT
GTGTTGTTTTCCATGACACTTTAGAAGCGCAAGTTTATACTTGTTCTGAAGGA
TGCAATGGAGAGCTATACGATCACCTATATAGAAAAACAGAAGAAGGG
GAAGGTGAAGAGGATGAAGAAGACTGA

09975605 101404

FIG. 6

SEQ ID NO: 8

MITKAIVILSIITAYVDASAFVYNYTYTLQDDNHRDYDFEVTDYFNDILIKRLKLNSSETGRPELRNEPPT
WFNETKIRIYYPKNYNFMFWLNRMSSETLDEINKLPETSNPYKTMSLTIGCTDLRQLQVNFYVTVGGNIW
TRFDPKNKRFSKVRSRTPFKVGMLTVKSQHWERVMHLGSMVTLTCPFTADDYYKISKGYIDKPVKPTVT
VTGIERGDNTTICTFDNHYPSSVAVKWYNIEDFAPDYRYDPYVNELLPDTDYLPGEPPGYPTITRRLGDK
YLFTSSPRVMVPTIMSNRIACVGFHSTLEPSIYRCVNC SGPEPVLQYQGDRRNDLEDEED

FIG. 7

09976605.101101

[illegible]

ATGATTACTAAAGCGATTGTGATATTGTCTATTATTACAGCATATGTAGATGCT
TTCCGCATTCTTAGTATACAATTATACATATACTTTACAAGATGATAATCATC
GATATGACTTCGAAGTCACCGATTATTTTAATGATATACTAATAAAACGTTTA
AAACTAAATAGCGAGACAGGAAGACCAGAATTAAGAAATGAACCACCAACA
TGGTTTAATGAGACTAAGATTAGATATTATCCGAAAAATAATTATAATTTTAT
GTTCTGGCTAAATAGAATGAGTGAAACGCTAGATGAGATAAAATAAACTTCCA
GAAACGAGTAATCCTTACAAGACTATGTCCTTGACAATTGGATGTACTGATCT
AAGACAACCTCAAGTAAATTTTCGGTTATGTTACTGTAGGTGGTAATATATGGA
CACGATTCGACCCCAAGAATAAACGCTTTAGTAAAGTTAGATCACGTACATT
TCCAAAGGTAGGAATGTTAACTGTTAAATCACAACTGGGAACGTGTTATG
GAACATCTTGGATCAATGGTAACATTAACATGTCCGTTTACAGCGGATGATTA
TTATAAAATTTCTAAGGGATATATAGATAAGCCAGTTAAGCCTACTGTTACAG
TTACAGGAATTGAAAGAGGAGATAATACTACATTGATATGCACATTTGATAA
TCATTATCCGTCGTCGGTCGCTGTTAAATGGTATAACATCGAGGACTTTGCTC
CGGACTATCGTTATGATCCGTACGTAAATGAATTGCTTCCTGATACGGACTAT
CTACCGGGTGAACCAGGATATCCGACTATACTAGGAGATTAGGTGATAAAT
ATTTATTTACATCATCACCTAGGGTTATGGTACCAACTATCATGTCTAATAGA
ATAGCATGTGTTGGATTTCATAGTACGTTAGAACCAAGCATATATAGATGTGT
AAACTGCTCGGGACCTGAGCCTGTTTTACAATACCAGGGAGAT
AGAAGGAATGACTTGGAGGATGAGGAGGATTAA

FIG. 8

ClustalW Formatted Alignments

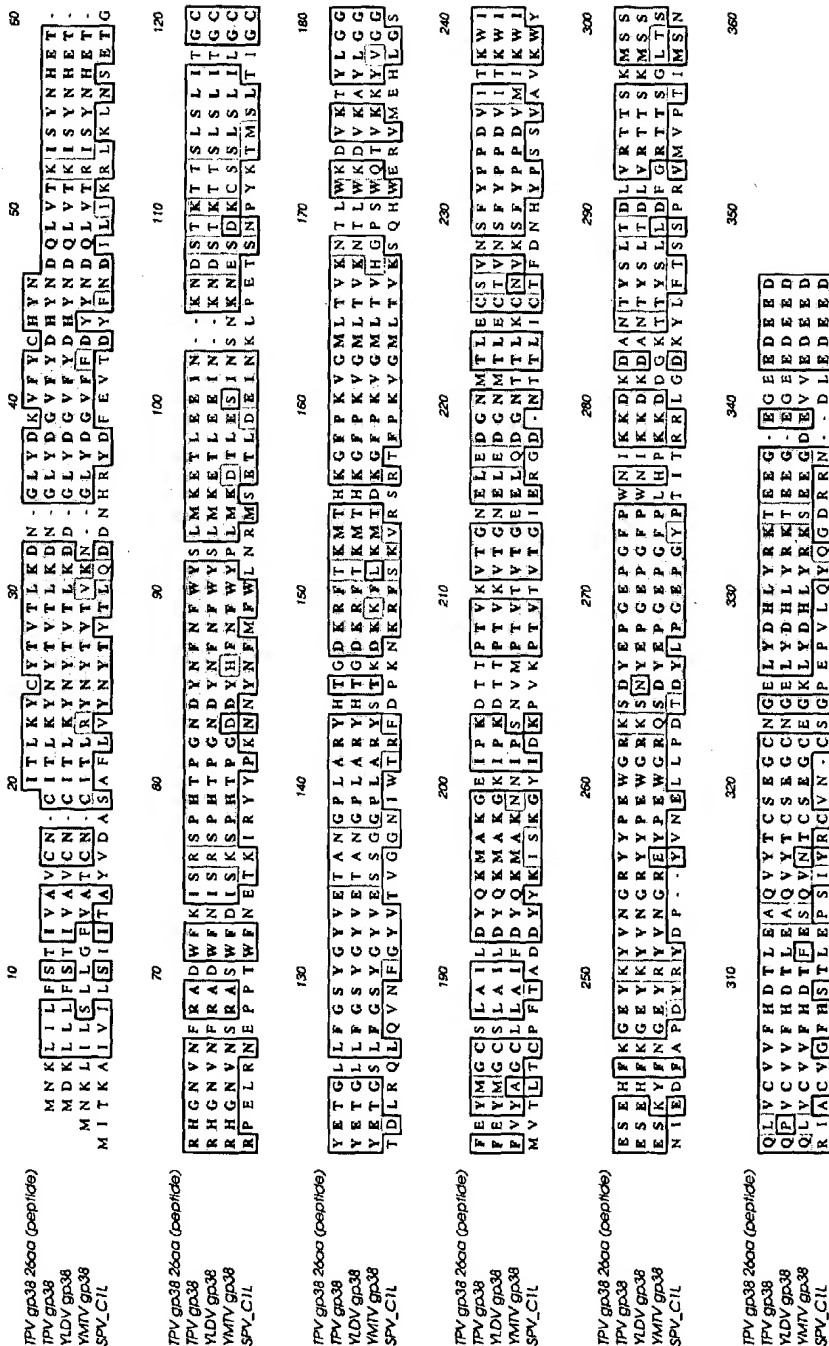


FIG. 9